
**Operations Agreement (OA) between the
Earth Observing System (EOS)
ClearingHUse (ECHO) and the Service
Partner**

**Version 1
April 2005**

National Aeronautics and
Space Administration

_____ Goddard Space Flight Center _____
Greenbelt, Maryland

Revision History

Date	Version	Description	Author

Preface

This Operations Agreement (OA) is controlled jointly by Earth Observing System (EOS) ClearingHouse (ECHO) Operations managed out of the Goddard Space Flight Center (GSFC) Earth Science Data and Information System (ESDIS) Science Operations Office (SOO) and the Service Partner. The ESDIS Project assumes the management of ECHO Operations and ECHO Development. The ECHO Operations Manager will maintain a master copy of this agreement. Both ECHO Operations and the Service Partner can propose changes to this document, but both parties must agree on the change. ECHO Operations agrees to make changes to the master copy once they have received e-mail acknowledgment and agreement from the Service Partner. Changes will be made in the form of a new revision. The revised version will then be forwarded to each ECHO Service Partner, which will then become the official version and supersede all earlier versions.

Questions and proposed changes concerning this document should be addressed to:

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ECHO Operations and the Service Partner agree to place this OA under the configuration management of their respective organizations and to maintain supporting information as specified in this agreement. They further agree to coordinate changes to this OA between and within their respective organizations.

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Section 1. Introduction

1.1 General

The EOS ClearingHouse (ECHO) is an enabling framework built by NASA's Earth Science Data and Information System (ESDIS) Project to allow different data systems and services to work together. ECHO is an open system based on Extensible Markup Language (XML) and Web Service technologies; its Application Program Interfaces (APIs) are published for use by the science community to exchange data, information, and services. XML messages that a user passes in and receives from the ECHO API interface conform to a set of Document Type Definitions (DTDs). The DTDs and API are published on the ECHO website, and the related documents are listed in Section 2.

An ECHO Service Partner is an entity that participates with ECHO to advertise their earth science domain web service in ECHO's service registry. ECHO allows users to find services in the service registry by using the defined taxonomies or by using the API to find services that can be applied to specific ECHO catalog items. The role of the Service Partner may expand as ECHO adds the chaining and brokering capability to ECHO.

More information on ECHO is available on the ECHO website: <http://eos.nasa.gov/echo>.

1.1 Purpose

The purpose of this document is to define the working agreement between ECHO Operations and the ECHO Service Partner.

1.2 Scope / Intended User

This agreement covers the Service Partner roles and responsibilities in the operational ECHO system and the corresponding roles and responsibilities of ECHO Operations. Section 4 – 8 describes the ECHO and Service Partner roles and responsibilities for the following high level topics: Service Development and Testing, Service Operations, New Versions of ECHO, ECHO and Service Partner Communication, and Metrics. This agreement will take effect once the Service Partner application has been approved and lasts for the duration of ECHO operations. This document is for ESDIS project personnel, Service Partner personnel, and ECHO Operations personnel. The document assumes the reader is moderately knowledgeable about ECHO.

Section 2. Related Documents

The following documents apply in defining this interface or in obtaining background information relative to this interface.

Document Title	Date	URL
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ECHO Operations Concept	March 2002	N/A
ECHO Operations Plan	December 2002	http://www-v0ims.gsfc.nasa.gov/v0ims/DOCUMENTATION/ECHO/EOP1.0.pdf
ECHO Service Partner Application	June 2004	http://www.echo.eos.nasa.gov/service_partners/service_docs/ServicePartnerApplicationForm.doc
ECHO API	Updated with each release	http://api.echo.eos.nasa.gov/echo/message_detail.html
Operational System Holdings Report and System Availability	Updated weekly	http://www.echo.eos.nasa.gov/status/status.shtml

Section 3. ECHO Ops and Service Partner Overview

3.1 ECHO Operations Overview

The ECHO system accepts metadata from different Data Partners, archives the metadata, and then allows Client Partners to give access through catalog search and order capabilities to end users. ECHO brokers the orders to the appropriate Data Partners. ECHO offers a UDDI service registry for Service Partners to advertise their web service and creates a connection, if applicable, between the metadata in ECHO and the services that can act upon it. ECHO Operations (Ops) operates the ECHO system and provides user support and outreach. The ECHO Ops team can be reached by e-mail at echo@killians.gsfc.nasa.gov and by phone at 301-867-2071.

3.2 Service Partner Overview

Short description of the Service Partner and a description of the service, including the service name, discovery URL, input data type (e.g. ASTER), input data format (e.g. HDF), output data format, and output distribution options. This information is considered the scope of the service.

Section 4. Service Development and Testing

4.1 Service Partner Setup

ECHO Ops agrees to setup a Service Partner within ECHO in coordination with the Service Partner. Service Partner setup will include the establishment of a Service Partner account.

ECHO Ops agrees to support the Service Partner's use of the ECHO APIs and the UDDI service registry. ECHO Ops agrees to discuss existing interface definitions and taxonomy placement with the Service Partner.

ECHO Ops agrees to provide tools to help with service partner participation.

The Service Partner agrees to provide feedback on the usefulness of the ECHO APIs and Partner tools.

4.2 General Testing

ECHO Ops agrees to support Service Partner's service testing.

ECHO Ops agrees to provide a service registry testbed for service testing. The service registry testbed is a separate copy of the current operational ECHO service registry that does not affect the operational system.

The Service Partner agrees to complete all testing, except scheduled end-to-end tests, on the service registry testbed.

Section 5. Service Operations

ECHO users are Data Partners, Client Partners, and Service Partners. End users are the Data, Client, and Service Partners' users.

5.1 Daily User Support - ECHO User and End User Support

ECHO Ops agrees to be available to users from 8am to 7pm ET, Monday through Friday and after hours support can be arranged as needed. ECHO Ops agrees to serve as the liaison for direct interactions between Data Partners, Client Partners, and Service Partners. Service end users are customers of the Service Partner. If the end user has an issue with the Service Partner's service, the end user should contact the ECHO Service Partner first. If the Service Partner cannot resolve the end user problem, then the Service Partner should contact ECHO Ops. ECHO Ops helps resolve the problem with the Service Partner and Data and Client Partners as necessary.

ECHO Ops agrees to refer the Service Partner and their end users' to the Data Partner if there is a question about the Data Partners' data.

ECHO Ops agrees to track and report on all errors reported by the Service Partner and perform troubleshooting when appropriate to determine the cause of the error, which may include coordinating with the Data Partner, Client Partner, and ECHO Development team.

The Service Partner agrees to provide customer support services to assist end users. The Service customer support services agrees to work with ECHO Ops to resolve end user problems that cannot be resolved by the Service Partner customer support services.

5.2 Service Currency and Availability

The Service Partner agrees to update their WSDL, service description, and taxonomy placement if a change is needed.

The Service Partner agrees to request the service's removal if it is no longer supported.

The Service Partner agrees to communicate their high-level milestones and deadlines to ECHO Ops.

The Service Partner agrees to communicate any major service scope changes (e.g. service type changes, input data format) to ECHO Ops.

5.3 Operations Guidelines

The Service Partner agrees to provide a real, non-hazardous, non-threatening, scientifically viable service.

The Service Partner agrees to put measures in place to prevent denial of service attacks on ECHO.

The Service Partner agrees to NASA's privacy policy.

The Service Partner acknowledges that there are consequences if the Service Partner inappropriately interacts with ECHO and does not follow the operations guidelines outlined in this section. The Service Partner will be warned and potentially blocked from advertising in or communicating with ECHO.

Section 6. New Versions of ECHO

6.1 New Version Testing

ECHO agrees to deliver a system that meets the requirements and has complete functionality. ECHO Development and External Test are responsible for following the ECHO Test Plan that is updated for each new version.

ECHO Ops agrees to notify the Service Partner of the opportunity to participate in an end-to-end test of a new version of ECHO before that version replaces the current operational version.

The Service Partner agrees to assist in the end-to-end testing of new versions of ECHO if they have resources (system and personnel) available.

The Service Partner is responsible for testing their actions to make sure they understand their effects.

6.2 New Version Deployment

ECHO Ops agrees to notify the Service Partner of upcoming new version deployment schedule and changes between the new and current versions (e.g. new functionality and API, DTD, tool changes). ECHO Ops agrees to notify the Service Partner of downtime associated with the new version deployment at least one week in advance. ECHO Ops agrees to use the website, mailing lists, and ETC meetings to communicate new version information. ECHO Ops agrees to update the ECHO Service Partner tools to the new version.

ECHO Ops agrees to operate the new version and the previous version of the ECHO system for TBD days to account for Service Partner acclimation if any.

The Service Partner agrees to change to the new ECHO version unless it is fatal to continue operations. New versions of ECHO may contain DTD and API changes that affect the Service Partner.

6.3 Training

ECHO Ops agrees to provide training and hold workshops for the Service Partners.

ECHO Ops agrees to coordinate the logistics and topics for the training and workshop with the ECHO Technical Committee (ETC). ECHO Ops agrees to allow the Service Partner to report status, provide service and end user context, make policy decisions, affect requirements, approve designs, and assess priority of actions at the ETC meetings.

Section 7. ECHO and Service Partner Communication

ECHO Ops agrees to maintain an up-to-date 508 compliant website available through <http://eos.nasa.gov/echo> for all ECHO users to find information about ECHO. The website will include upcoming release schedules and functionality and Service Partner resources. ECHO Ops agrees to survey the user community to assess their satisfaction with the website.

ECHO Ops agrees to hold a weekly community meeting called the ETC meeting to discuss operations issues and technical details.

ECHO Ops agrees to maintain a problem reporting and tracking system. ECHO Ops agrees to provide weekly Operations status reports (e.g. system availability, system performance, data holdings) on the website. ECHO Ops agrees to call or e-mail the Service Partner directly about problems specific to them.

ECHO Ops agrees to communicate downtime in the following way:

- 1) ECHO Ops will send notification of planned downtime events for the week (both the operational and test systems) to the ECHO Status mailing list, echo-status@killians.gsfc.nasa.gov. These items will also be posted on the ECHO web site, <http://eos.nasa.gov/echo>.
- 2) Prior to bringing the system down for a planned event, ECHO Ops will send a reminder to the ECHO status mailing list. People can be added to the ECHO Status mailing list at any time.
- 3) In the event of a confirmed system failure or other unplanned event, ECHO Ops will send notification to the ECHO Status mailing list as soon as possible (before the system is brought down or after we confirm a failure).
- 4) Following system restoration (from planned or unplanned event), ECHO Ops will send a follow up message to the ECHO Status mailing list as soon as possible after the system is restored.

The Service Partner agrees to inform the ECHO Operations group of scheduling needs and operational problems and issues by e-mailing echo@killians.gsfc.nasa.gov or by calling ECHO Ops at 301-867-2071. The Service Partner will have the opportunity to prioritize action items, issues, and new feature functionality.

Section 8. Metrics

ECHO Ops agrees to provide the following metrics, which will be available to the Service Partner: number of ECHO registered users, number and list of registered clients, number and list of Data Partners, number of datasets, granules by dataset, and browse by dataset, number of subscriptions, number of submitted orders, and amount of scheduled and unscheduled downtime, and lag time for metadata to be staged for ingest. In addition, ECHO Ops agrees to provide search performance metrics.

ECHO Ops agrees to work with the ETC to determine what additional metrics are needed.

Appendix A: Acronym List

ACL	Access Control List
API	Application Program Interface
CCB	Configuration Control Board
DTD	Document Type Definition
ECHO	EOS Clearing House
EOS	Earth Observing System
EOSDIS	Earth Observing System Data and Information System
ESDIS	Earth Science Data and Information System
ET	Eastern Time
ETC	ECHO Technical Committee
FTP	File Transfer Protocol
GSFC	Goddard Space Flight Center
N/A	Not Applicable
NASA	National Aeronautics and Space Administration
OA	Operations Agreement
POC	Point of Contact
PUMP	Provider User Management Program
QA	Quality Assessment
SOO	Science Operations Office
TBD	To Be Defined/Determined
UDDI	Universal Description, Discovery and Integration
URL	Uniform Resource Locator
WSDL	Web Services Description Language
XML	Extensible Markup Language

Appendix B: Points of Contact (POC)

ECHO POC

What	Details	POC Title/Name	Used by	Used for
Customer Services Support Telephone Number E-mail address	1-301-867-2071 echo@killians.gsfc.nasa.gov	Customer Support Coordinator	Service Partner Customer Services Support	Customer Services Support
Policy Questions and Problem Resolution	1-301-614-5318 Beth.E.Weinstein@nasa.gov 1-301-614-5326 Jeanne.Behnke@nasa.gov	ECHO Operations Manager	Service Partner Customer Services Support and Manager	Problem resolution and escalation